



National Board of Navigation

CIRCULAR No. 9/15.10.1992

LIST OVER BILGE WATER SEPARATORS, PROCESS UNITS, OIL CONTENT METERS AND SEWAGE TREATMENT PLANTS, TYPE-APPROVED BY THE NATIONAL BOARD OF NAVIGATION

Enclosed is a list of equipment type-approved by the National Board of Navigation as per September 14, 1992. Approvals have been made in accordance with the provisions published in Circular No. 18/1.12.1983 and No. 11/9.6.1986.

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OILY-WATER SEPARATING EQUIPMENT

(Oil content of the effluent not exceeding 100 ppm)

Manufactured by	Type and model	Maximum throughput m ³ /h
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<u>Germany</u>		
Howaldtswerke-Deutsche Werft AG	TURBULO	
2000 Hamburg	TE 1-i	1.0
	TE 2.5-i	2.5
	TE 5-i	5.0
	TE 10-i	10.0
 <u>United Kingdom</u>		
Fram Industrial Filtration & Separation	FRAMARINE	
Pontyclun, Wales	CPS 5 B 100	1.3
	CPS 25 B 100	5.3

OIL FILTERING EQUIPMENT

(Oil content of the effluent not exceeding 15 ppm)

Manufactured by	Type and model	Maximum throughput m ³ /h
<u>Finland</u>		
Aquamaster-Rauma Oy P.O. Box 220 SF-26101 Rauma	UNEX M	1.3
<u>France</u>		
Sofrance Sa	BBS 9538/15/01	1.0
Nexon	BBS 9538/15/03	3.0
	BBS 9538/15/06	6.0
	BBS 9538/15/10	10.0
<u>Germany</u>		
Blohm & Voss AG Hamburg	TURBULO	
	TCS 0.25	0.25
	TCS 0.5	0.5
	TCS 1.0	1.0
	TCS 2.5	2.5
	TCS 5	5.0
	TCS 10	10.0
DVZ-Sevices 2808 Syke	DVZ 250	0.25
	DVZ 500	0.5
	DVZ 1000	1.0
	DVZ 2500	2.5
	DVZ 250 HCV	0.25
	DVZ 500 HCV	0.5
	DVZ 1000 HCV	1.0
	DVZ 2500 HCV	2.5
	DVZ 5000 HC	5.0
	DVZ 10000 HC	10.0
Fritz Schröder KG 2819 Thedinghausen	SBBE 0.5	0.5
	SBBE 1.0	1.0
	SBBE 2.5	2.5
Hebold Apparatebau und Maschinenfabrik GmbH & Co 2190 Cuxhaven	CUX-E-M 515	0.5
	CUX-E- 0115	1.0
	CUX-E- 0215	1.5
	CUX-E- 0315	2.5
	CUX-E- 0515	5.0
	CUX-E- 0815	7.5
	CUX-E- 1015	10.0

OIL FILTERING EQUIPMENT

(Oil content of the effluent not exceeding 15 ppm)

Manufactured by	Type and model	Maximum throughput m ³ /h
Howaldtswerke-Deutsche Werft AG 2000 Hamburg	TURBULO	
	TEIF 1	1.0
	TEIF 2.5	2.5
	TEIF 5	5.0
	TEIF 10	10.0
	TEF 0.5	0.5
	TEF 1	1.0
	TEF 2.5	2.5
	TEF 5	5.0
	TEF 10	10.0
	TEF 0.5-S	0.5
	TEF 1.0-S	1.0
	TEF 2.5-S	2.5
	TEF 5 -S	5.0
	TEF 10 -S	10.0
	TEF 20 -S	20.0
	TPC 0.25	0.25
	TPC 0.5	0.5
	TPC 1	1.0
	TPC 2.5	2.5
	TPC 5	5.0
Ross Industrie GmbH Hamburg	TURBULO	
	TPC 0.25 H	0.25
	TPC 0.5 H	0.5
	TPC 1 H	1.0
	TPC 2.5 H	2.5
	TPC 5 H	5.0
	TPC 10 H	10.0
RWO Maschinenfabrik Armaturen- und Apparatebau GmbH 2803 Weyhe-Dreye	GSF 0.25	0.25
	GSF 0.5	0.5
	GSF 1.0	1.0
	GSF 2.5	2.5
	GSF 5	5.0
	GSF 7.5	7.5
	GSF 10	10.0
	WZ1/WZF1	1.0
	WZ2/WZF2	2.5
	SKIT S 0.5	0.5
	SKIT S 1.0	1.0
	SKIT S 1.5	1.5
	SKIT S 2.5	2.5
	SKIT S 5.0	5.0
	SKIT S 10.0	10.0

OIL FILTERING EQUIPMENT

(Oil content of the effluent not exceeding 15 ppm)

Manufactured by	Type and model	Maximum throughput m ³ /h
	SKIT SC 0.5	0.5
	SKIT SC 1.0	1.0
	SKIT SC 1.5	1.5
	SKIT SC 2.5	2.5
	SKIT SC 5.0	5.0
	SKIT SC 10.0	10.0
<u>Japan</u>		
Heishin Pump Works Ltd Kakogawa	HSN- 0.25 F	0.25
	HSN- 0.5 F	0.5
	HSN- 1 F	1.0
	HSN- 2 F	2.0
	HSN- 3 F	3.0
	HSN- 5 F	5.0
	HSN-10 F	10.0
	HSN- 0.25 D	0.25
	HSN- 0.5 D	0.5
	HSN- 1 D	1.0
	HSN- 2 D	2.0
	HSN- 3 D	3.0
	HSN- 5 D	5.0
	HSN-10 D	10.0
	HMS 100	1.0
Oil Pollution Engineering Co Ltd Tokyo	KEENE/OPE	
	OS- 0.1	0.1
	OS- 0.2	0.2
	OS- 0.5	0.5
	OS- 1	1.0
	OS- 2	2.0
	OS- 5	5.0
	OS-12	12.0
Sasakura Engineering Co Ltd Osaka	SASAKURA TURBULO	
	TFU- 1 (B)	1.0
	TFU- 2 (B)	2.0
	TFU- 3 (B)	3.0
	TFU- 5 (B)	5.0
	TFU-10 (B)	10.0

OIL FILTERING EQUIPMENT

(Oil content of the effluent not exceeding 15 ppm)

Manufactured by	Type and model	Maximum throughput m ³ /h
<u>Netherlands</u>		
Facet Industrial BV Almere-De-Vaart	FRAMARINE CPS 5 B MOD 1 CPS 10 B MK II CPS 25 B MOD 1 CPS 50 B MK II	1.0 2.5 5.0 10.0
Machinefabrik Geurtsen Deventer BV Deventer	AQUAMARIN GeDe 0001 IAP GeDe 0002.5 IAP GeDe 0005 IAP GeDe 0010 IAP GeDe 250 MK II GeDe 500 MK II GeDe 1000 MK II	1.0 2.5 5.0 10.0 0.25 0.5 1.0
<u>Poland</u> WARMA Grudziadz	OB 5	5.0
<u>Sweden</u> AB Brunnshygien Gothenburg	JOWA-OIL-A - 0.5 - 1.0 - 1.5 - 2.5 - 3.5 - 5.0 - 7.5 - 10.0	0.5 1.0 1.5 2.5 3.5 5.0 7.5 10.0
<u>United Kingdom</u> Facet Industrial Pontyclun, Wales	FRAMARINE CPS 5 B 5 CPS 5 B 15 CPS 25 B 5 CPS 25 B 15	1.3 1.3 5.3 5.3
Hamworthy Engineering Limited Pump & Compressor Division Poole, Dorset	HS 1 HS 2.5 HS 5	1.0 2.5 5.0

OIL FILTERING EQUIPMENT

(Oil content of the effluent not exceeding 15 ppm)

Manufactured by	Type and model	Maximum throughput m ³ /h
Hodge Separators Limited Falmouth	VICTOR 2 STAGE MS SERIES	
	MS- 0.5	0.5
	MS- 1	1.0
	MS- 2	2.0
	MS- 3	3.0
	VICTOR	10.0
Hodge Separators Limited Penryn, Cornwall	VICTOR VS 2	0.5
	- " -	1.0
	- " -	2.5
	- " -	5.0
	- " -	10.0
<u>USA</u>		
Marland Environmental Systems Inc Walworth, Wisconsin	INVERTO	1.5
	- " -	2.5
	- " -	5.0
National Fluid Separators Inc St. Louis, Missouri	BILGEMASTER	0.45
	- " -	1.13
	- " -	2.26
Separation & Recovery Systems Inc Irvine, California	OWS- 5	1.13
	OWS-10	2.26
	OWS-20	4.53
	OWS-60	13.38
	VGS- 1	0.23
	VGS-10	2.26
	VGS-20	4.53
World Water Systems Inc Tustin, California	HELI-SEP	
	500	0.5
	1000	1.0
	2000	2.0
	2500	2.5
	5000	5.0
	10000	10.0

OIL CONTENT METERS

Manufactured by	Type and model	Bilge Alarms 15ppm	Bilge Moni- tors 100ppm	Ballast Monitors	
				Crude oil & black oils	White oils
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<u>Finland</u>					
Sähköliikkeiden Oy	OILI	x	x	x	x
P.O. Box 88	OILI-S		x	x	x
SF-01301 Vantaa	OILI-S 1000			x	x
<u>France</u>					
SERES	DRUR 545 D			x	x
Les Milles, Cedex	ODME S 663	x	x	x	x
	BWAM S 646	x			
<u>Germany</u>					
Deckma GmbH	OCA	x	x		
2000 Hamburg	OCD 1	x			
	OCD 2	x			
	OCD 3	x	x		
Gestra AG	OR 34 S	x			
2800 Bremen					
Howaldtswerke-Deutsche	OCSA	x			
Werft AG					
2000 Hamburg					
<u>Japan</u>					
Yamatake-	OIL-A-LYZER "A"	x			
Honeywell Co Ltd					
Tokyo					
<u>Netherlands</u>					
ITT Conoflow-Vaf	ITT OILCON MK II				
Dordrecht	Ballast Monitor			x	x
	Bilge Monitor	x	x		
	C 11	x			
	C 12	x			
<u>Sweden</u>					
Ab Brunnshygien	JOWA-Monitor	x			
Gothenburg	JOWA-Monitek	x	x		
Jowa Ab	JOWA M-87	x			
Gothenburg					

OIL CONTENT METERS

Manufactured by	Type and model	Bilge Alarms 15ppm	Bilge Moni- tors 100ppm	Ballast Monitors	
				Crude oil & black oils	White oils
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<u>United Kingdom</u>					
Babcock-Bristol Ltd Croydon	OTM-17 XA OSM Bilge Alarm	x		x	
STC International Marine Ltd Mitcham, Surrey	OILCON MK IV			x	x
<u>USA</u>					
HF Scientific Inc FT Myers, Florida	HF SCIENTIFIC	x	x		
Monitek Inc Redwood City, California	MONITEK 160/829	x			
Separation & Recovery Systems Inc Irvine, California	BA-1 OCA-1	x x			

PROCESS UNITS FOR ATTACHMENT TO EXISTING OILY-WATER SEPARATING EQUIPMENT

(Oil content of the effluent not exceeding 15 ppm)

Manufactured by	Type and model	Maximum throughput m ³ /h
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Germany

Howaldtswerke-Deutsche Werft AG	TURBULO	
2000 Hamburg	TPU 0.5	0.5
	TPU 1	1.0
	TPU 2.5	2.5
	TPU 5	5.0
	TPU 10	10.0

Japan

Sasakura Engineering Co Ltd	SASAKURA	
Osaka	F - 0.25	0.25
	F - 0.5	0.5
	F - 1	1.0
	F - 2	2.0
	F - 3	3.0
	F - 5	5.0
	F - 10	10.0

United Kingdom

Hodge Separators Limited	VICTOR VP 2	0.5
Penryn, Cornwall	- " -	1.0
	- " -	2.5
	- " -	5.0
	- " -	10.0

SEWAGE TREATMENT PLANT

Manufactured by	Type and model	Designed Hydraulic Loading m ³ /d	Designed Organic Loading kg/d
<u>Finland</u>			
Aquamaster-Rauma Oy P.O. Box 220 SF-26101 Rauma	UNEX BIO		
	- 20	1.4	0.7
	- 40	2.8	1.4
	- 60	4.2	2.1
	- 80	5.6	2.8
	- 100	7.0	3.5
	- 200	14.0	7.0
	- 600	42.0	21.0
	- 800	56.0	28.0
	UNEX BIO SECTIONAL		
	- 20	1.4	0.7
	- 40	2.8	1.4
	- 60	4.2	2.1
	- 80	5.6	2.8
	UNEX CEM		
	- 3	72.0	28.8
	- 7.5	180.0	72.0
	- 15	360.0	144.0
	UNEX SIMULTAN		
	- 10	3.0	1.5
	- 15	4.0	2.0
	- 40	12.0	6.0
	- 60	18.0	9.0
	- 80	24.0	12.0
	- 100	30.0	15.0
<u>Germany</u>			
Aqua Mar GmbH 5064 Rostrath	AQUA MAR BIO UNIT		
	MSP I	2.62	1.25
	MSP II	5.75	2.47
	MSP III	7.875	3.38
	MSP IV	12.25	5.25
	MSP V	26.5	11.25
	MSP 25	4.38	1.875
	MSP 60	10.5	4.5
	MSP 80	13.12	5.65
Deutsche Gerätbau GmbH 4796 Salzkotten	BIO COMPACT		
	KSA-S 35	6.125	3.060
	KSA-S 50	8.75	4.375
	KSA-S 100	17.5	8.0
	KSA-S 300	52.5	21.45
	KSA-S 800	140.0	48.0

SEWAGE TREATMENT PLANT

Manufactured by	Type and model	Designed Hydraulic Loading m ³ /d	Designed Organic Loading kg/d
Format-Chemie & Apparate GmbH 2086 Ellerau	MSTP 1	6.6	3.3
	MSTP 2	12.0	6.0
	MSTP 3	18.0	9.0
	MSTP 4	22.5	11.3
	MSTP 5	33.0	16.5
	MSTP 6	48.0	24.0
	MSTP 7	69.0	34.5
	MSTP 8	150.0	75.0
	MSTP 9	300.0	150.0
Hamann Wassertechnik GmbH Hamburg-Seevetal	HL-CONT C-45	96.0	72.0
	HL-COMPACT-MINI	24.0	18.0
	HL-CONT (360m ³ /d)	360.0	270.0
<u>Japan</u>			
Nippon Kokan Yokohama	NKK-25 D TYPE II	1.5	0.3375
<u>Poland</u>			
WARMA Grudziadz	LK-50	3.25	3.0
<u>Sweden</u>			
Salèn & Wicander Solna	NEPTUNMATIC		
	MOC- 12	12.0	6.2
	MOC-100	100.0	40.0
	MOC-125	125.0	50.0
	RETRO 30	30.0	15.4
	RETRO 45	45.0	23.2
<u>United Kingdom</u>			
Hamworthy Engineering Ltd Pump & Compressor Division Poole, Dorset	SUPER TRIDENT		
	ST 2 A	1.6	1.2
	ST 4 A	3.0	2.4
	ST 6 A	4.6	3.6
	ST 8	6.0	4.8
	ST 10	7.4	6.0
	ST 15	11.0	9.0
	ST 20	14.5	12.0
	ST 25	17.5	15.0
	ST 30	23.1	18.0

SEWAGE TREATMENT PLANT

Manufactured by	Type and model	Designed Hydraulic Loading m ³ /d	Designed Organic Loading kg/d
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	RETRO FIT TRIDENT		
	RT 20	1.6	1.2
	RT 40	3.0	2.4
	RT 60	4.6	3.6
	RT 80	6.0	4.8
<u>USA</u>			
Envirovac Inc. Rockford, Illinois	ORCA II-160	18.17	19.2
	ORCA II-330	37.47	39.6
	ORCA II A 12	1.36	1.44
	ORCA II A 24	2.75	2.88
	ORCA II A 36	4.09	4.32
Marland Environmental Systems Inc Walworth, Wisconsin	MARLAND SANI-SYSTEM		
	SS 600	2.84	2.25
	SS 615	5.11	4.05
Omnipure Wastewater Treatment Houston, Texas	OMNIPURE 6 M	2.29	1.62
	OMNIPURE 8 M	6.815	3.6

